

CLAIMS

1. A resource router including a first processing module (1, 19) adapted to route primary resources as a function of instructions received, inputs (2) adapted to feed said
 5 first processing module (1, 19) with primary resources, outputs (3) adapted to collect primary resources switched by said first processing module (1, 19), and control means (15) adapted to control adding secondary resources to and/or dropping secondary resources from some of said
 10 received primary resources,

which router is characterized in that it includes:

- a second processing module (6, 20) adapted to process secondary resources to be added or dropped having a finer granularity than the primary resources; and
 15 - coupling means (9) including a drop bus (8) and/or an add bus (7) and adapted, on the instructions of the control means (15):

- to drop either the whole of a primary resource arriving at one of said inputs (2) and/or outputs
 20 (3) or a portion thereof to feed said second processing module (6, 20), and/or
 - to add a secondary resource processed by said second processing module to a primary resource received at one of said inputs (2) and/or outputs
 25 (3) and in transit to a common destination.

2. A router according to claim 1, characterized in that said coupling means (9) include a first multiplicity of first passive combination and/or separation elements (10, 10') each coupled to a bus channel (7, 8), a second
 30 multiplicity of second passive combination and/or separation elements (11, 11') each coupled to an input (2) or to an output (3), and groups of switching elements (12, 12') each coupled to a group of channels of a bus
 35 (7, 8) via said associated first passive element (10, 10') and to an input (2) or to an output (3) via said associated second passive element (11, 11').

3. A router according to claim 1, characterized in that said first processing module (1) is of "packet switching" type.

5 4. A router according to claim 3, characterized in that
said second processing module (6) comprises a memory
adapted to store data packets forming secondary resources
to be added to primary resources received in the form of
bursts or frames of data packets or dropped from primary
10 resources received in the form of bursts or frames of
data packets.

5. A router according to claim 4, characterized in that
said memory (6) is of "shared" type.

15 6. A router according to claim 4, characterized in that
said coupling means (9) are adapted to add said dropped
data packet at the end of said received burst or at a
reserved location of said received data packet frame.

20 7. A router according to claim 1, characterized in that
said first processing module (19) is of "wavelength-band
switching" type.

25 8. A router according to claim 1, characterized in that
said first processing module (19) is of "wavelength
switching" type.

9. A router according to claim 7, characterized in that
30 said second processing module (20) comprises wavelength
switching means adapted to receive from said coupling
means (9) a wavelength dropped from said received primary
resources and/or to process a wavelength to be added by
said coupling means (9) to a primary resource.

35 10. A router according to claim 8, characterized in that
said second processing module (6) is adapted to receive

data packets constituting secondary resources to be added
by said coupling means (9) to a wavelength constituting a
received primary resource and to recover data packets
constituting secondary resources dropped by said coupling
5 means (9) from at least one wavelength constituting a
received primary resource.